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Erosion and Sediment Control Audiovisual Training. Instructor's Manual

Hittman Associates, Inc, Columbia, Md

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16. ABSTRACT
A series of technical presentations and a certification plan for erosion and sediment control specialists are presented. Thirteen lessons complete with visual aids, student handouts and audiovisual handouts consisting of slides, videotape and tape narration, workbooks and instructor's manuals are developed. These materials are designed to provide an effective education program for qualifying construction personnel and others to pass a certification examination. The list of the lessons is as follows:

1. Goals, Objectives and Principles of Erosion and Sediment Control
2. Soils
3. Rainfall-Runoff Relationships
4. Erosion and Sedimentation
5. Plant Materials
6. Control of Runoff During Construction
7. Vegetative Soil Stabilization
8. Stream Erosion Control
9. Temporary Soil Stabilization
10. Control of Sediment Generated on Construction Sites
11. Erosion and Sediment Control Planning
12. Wooded Site Development
13. Foreman-Inspector Responsibilities

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INSTRUCTOR'S MANUAL

JUNE 1976

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June 1976

EROSION AND SEDIMENT CONTROL AUDIOVISUAL TRAINING

INSTRUCTOR'S MANUAL

Prepared by

The State of Maryland
Water Resources Administration

and

The U.S. Environmental Protection Agency
Office of Research and Development

Contributory

Department of Transportation
The Federal Highway Administration
Office of Development

and

The U.S. Department of Agriculture
Soil Conservation Service

DISCLAIMER

Publication of this Instructor's Manual does not signify that the contents necessarily reflect the views and policies of the U.S. Environmental Protection Agency nor the U.S. Department of Transportation Federal Highway Administration. Mention of tradenames or commercial products does not constitute endorsement nor recommendation for use.

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10	Control of Sediment Generated on Construction Sites	
11	Erosion and Sediment Control Planning	
12	Wooded Site Development	
13	Foreman-Inspector Responsibilities	

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LESSON 1

EROSION AND SEDIMENT CONTROL

THE GOALS, OBJECTIVES, AND PRINCIPALS OF EROSION AND SEDIMENT

INSTRUCTOR'S MANUAL

THE GOAL, OBJECTIVES AND PRINCIPLES OF EROSION AND SEDIMENT CONTROL

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the audiovisual program and workbook for the audiovisual presentation on The Goal, Objectives and Principles of Erosion and Sediment Control.

OBJECTIVE

The objective of this audiovisual package is to promote better understanding among erosion and sediment control specialists as to:

- the three major ideas of the goal of erosion and sediment control.
- the objectives of erosion and sediment control.
- the principles of erosion and sediment control.

PREPARATION FOR PRESENTATION

This audiovisual package is designed both for self-study and for group presentation. For an effective smooth-running group presentation, plan well in advance. Have the audioslide projector, the screen, and seating set up. Have the workbooks ready for distribution.

Before presenting the program, preview it and read the workbook so that you have their contents clear in your mind and can answer questions. Previewing the slides also assures you that the audioslide projector is working properly.

Finally, prepare the audience. Explain the objectives of the audiovisual package. Describe the sequence of events of the presentation. Tell them that there will be a short review quiz at the end of the program to help them discover how well they have understood the presentation.

PRESENTATION

The program can be viewed continuously. However, because of the quantity and detail of the information presented, it is suggested that you view it in sections. The projector and audio is programmed to allow a fifteen second pause at review points. This will provide time to stop the projector for question and answer periods. Always make sure everyone understands each part of the program before going on to the next part.

PROJECTOR OPERATION FOR AUDISCAN EQUIPMENT ONLY

To operate the Audiscan audiovisual projector insert the appropriate cartridge with the arrow up into the side of the machine. Turn the machine on using the Volume On/Off control. To start the program, press the Start switch. Focus as desired. To restart the projector after it has stopped for review questions, push the Start portion of the Program Hold/Start switch. Should the audio and visual portions of the filmstrip become unsynchronized for any reason, synchronization may be reestablished by holding the Lock switch to the left and at the same time depressing either the Film Hold or Film Advance switch as appropriate.

SEQUENCE OF EVENTS

Welcome the group and prepare them as previously described. Tell them that a workbook will be distributed. Add that it was prepared to expand the information in the filmstrips. Also, inform them of the built-in review periods.

Show the program. Stress the importance of controlling erosion and sedimentation. Be sure the trainees understand the goal, the specific objectives, and the principles of erosion and sediment control.

IDEAS FOR DISCUSSION

1. How does erosion and sediment damage affect nearly every citizen?

2. Review the Goal of Erosion and Sediment Control.

3. What kind of laws and regulations are needed to control erosion and sediment?

4. How do we improve communication, procedures and techniques?

5. Why is the human use of water resources listed after the protection of the land and water?

6. How do the objectives help to better define the goal of erosion and sediment control?

7. Why is it important to learn the philosophy of erosion and sediment control?

8. Discuss the idea, "think ahead and don't fight nature."

9. Why are many complaints received about principle #2?

10. How important is periodic inspection and follow-up maintenance?

The Goal, Objectives and Principles of Erosion and Sediment Control

WORKBOOK - ANSWERS

Page WB 1-10

1. Erosion
2. waterways
3. 15,5
4. 500
5. urbanization

Page WB 1-11

1. False
2. True
3. True
4. False
5. False
6. True

Page WB 1-12

1. d
2. b
3. a
4. b

Page WB 1-13

1. designed (adjusted, planned)
2. planning
3. control
4. erosion
5. sediment, sediment basins
6. "end-of-day"

Page WB 1-14

1. d
2. waterways
3. 5
4. d
5. b
6. e
7. a
8. b
9. flexibility
10. sediment
11. c
12. b
13. erosion, sediment

LESSON 2

EROSION AND SEDIMENT CONTROL

SOILS

INSTRUCTOR'S MANUAL

SOILS

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the visual aid slides, workbook, and tests for the self-instructional audiovisual lessons on Soils.

OBJECTIVES

The objectives of this instructional package are to promote better understanding among contractors, foremen, highway and transportation officials, inspectors, architects and engineers, and other constructional personnel as to:

- the formation and composition of soils
- the classification of soils, and factors related to erosion and sediment control

PREPARATION FOR PRESENTATION

This instructional package is designed both for individual study and for group presentation. For an effective, smooth-running group presentation, plan well in advance. Have the audiovisual projector, the screen, and the setting up. Have the workbooks and quizzes ready for distribution.

Before presenting the filmstrip, preview it and read the workbook so that you can have their contents clear in your mind and can answer questions. Previewing the filmstrip also assures you that the audiovisual projector is working properly.

Finally, prepare the audience. Explain the objectives of the instructional package. Describe the sequence of events of the presentation. Tell them that there will be a short quiz at the end of the meeting or at intervals during the presentation, depending on which approach you choose to follow. These quizzes will help them discover how well they have understood the filmstrip.

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SEQUENCE OF EVENTS

Welcome the group and prepare them as previously described. Tell them that workbooks and quizzes will be distributed; inform the audience that these materials were prepared to expand the information in the filmstrips. Also, inform them of the built-in review periods.

Show the program. Stress the importance of understanding the basics of soils. Be sure the trainees understand the need to define a clear goal -- have specific objectives, and relate various properties of soils to erosion and sediment control.

SUGGESTED QUESTIONS FOR DISCUSSION

1. Is all topsoil fertile? Can the nutrients in topsoil be depleted, by weeds or by intensive agricultural activity?

2. Should only one system of soil classification be used, or are the various systems useful for different purposes? If they are, what are these various purposes?

3. Can the resistance of a soil to erosion be improved? If so, how?

4. If compaction increases the resistance of a soil to dispersion and erosion, but increases the runoff, and resulting possibility of erosion, should fill material be compacted? Is compaction helpful or harmful, in soil stabilization, or both?

5. What is the difference between infiltration rate and permeability?

6. What kinds of conditions make soils poor in quality? How can these conditions be improved?

7. What stability failures in soils have recently occurred in this region? How could they have been prevented? How can they be repaired?

Review Answers

Questions 1 WB 2-19

1. bedrock 2. weathering

3. (two of these) gravity, extreme temperature variations, pressure of freezing water, glaciers, wind, waves

4. chemical 5. roots, plants, animals 6. chemicals, dissolve

Questions 2 WB 2-20

1. b 2. d 3. a 4. d 5. b,c 6. a 7. d

Questions 3 WB 2-22

1. T 2. F 3. F 4. T 5. F 6. T 7. T

Questions 4 WB 2-23

1. structure 2. granular 3. cohesion 4. fines

5. clay 6. shear strength 7. landslides, slumps

Questions 5 WB 2-24

1. C 2. B 3. C 4. A 5. B

Questions 6 WB 2-26

1. a 2. a,b 3. **a,b,d** 4. a,c 5. b 6. c 7. d

8. a

Questions 7 WB 2-28

1. T 2. F 3. T 4. F 5. F 6. T 7. T

8. T 9. F 10. F 11. T 12. T 13. T 14. F

LESSON 3

EROSION AND SEDIMENT CONTROL

RAINFALL - RUNOFF RELATIONSHIPS

INSTRUCTOR'S MANUAL

RAINFALL-RUNOFF RELATIONSHIPS

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the audiovisual slides, workbook, and tests for the self-instructional audiovisual lessons on Rainfall-Runoff Relationships.

OBJECTIVES

The objectives of this instructional package are to promote better understanding among contractors, foremen, highway and transportation officials, inspectors, architects and engineers, and other construction personnel as to:

- the basics of precipitation, including the hydrologic cycle
- floods, floodplains, and watersheds
- the importance of running water as an agent of erosion and sedimentation
- the factors that effect the amount of surface runoff
- the effect of man's activities on the amount of surface runoff

PREPARATION FOR PRESENTATION

This instructional package is designed both for individual study and for group presentation. For an effective, smooth-running group presentation, plan well in advance. Have the audiovisual projector, the screen, and the seating set up. Have the workbooks and quizzes ready for distribution.

Before presenting the filmstrip, preview it and read the workbook so that you can have their contents clear in your mind and can answer questions. Previewing the filmstrip also assures you that the audiovisual projector is working properly.

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SEQUENCE OF EVENTS

Welcome the group and prepare them as previously described. Tell them that workbooks and quizzes will be distributed; inform the audience that these materials were prepared to expand the information in the filmstrips. Also, inform them of the built-in review periods.

Show the program. Stress the importance of understanding rainfall-runoff relationships. Be sure the trainees understand the need to define a clear goal -- have specific objectives, and utilize the best techniques in order to minimize surface runoff.

SUGGESTED QUESTIONS FOR DISCUSSION

1. Is there a "rainy season" in this part of the country, or is the monthly precipitation relatively constant?

2. Does the average intensity of precipitation events in this part of the country vary, seasonally, or is the average intensity constant?

3. How do man's activities tend to influence the amount of water that returns to the atmosphere through evaporation and transpiration, as compared with the amount that returns to the ocean through surface runoff?

4. Why do raindrops exert a tremendous force, as they strike exposed soil?

5. What places in this area are most subject to flooding? Are severe floods in these places occurring more frequently, less frequently, or about as often as they did, 20 to 40 years ago? If they seem more frequent, how do you account for this fact?

6. Is the ban on all development within a 100 year floodplain a reasonable restriction? Are floodplains useful in other ways than as land for development.

Review Answers

Questions 1 WB 3-24

1. soil erosion 2. climatology
3. hydrology 4. hydraulics 5. erosion, sedimentation
6. orographic, convective, frontal, cyclonic

Questions 2 WB 3-25

1. T 2. F 3. F 4. T 5. T 6. T

Questions 3 WB 3-26

1. a,c, 2. b 3. a,b,c,d,

Questions 4 WB 3-27

1. T 2. F 3. T 4. F 5. F 6. T
7. T 8. F

Questions 5 WB 3-28

1. T 2. T 3. F 4. T 5. T 6. F 7. F

Review WB 3-29

1. runoff, erosion 2. runoff 3. stormwater
4. erosive 5. watershed 6. permeability, compaction, infiltration, rate
7. runoff

LESSON 4

EROSION AND SEDIMENT CONTROL

EROSION AND SEDIMENTATION

INSTRUCTOR'S MANUAL

EROSION AND SEDIMENTATION

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the audiovisual slides and workbook for the audiovisual presentation on Erosion and Sedimentation.

OBJECTIVE

The objective of this audiovisual package is to promote better understanding among erosion and sediment control specialists as to:

- what erosion and sedimentation are.
- point out the different types and categories of erosion.
- the connection between erosion and sedimentation.
- the mechanics of erosion and sedimentation.
- the methods of measuring soil loss.

PREPARATION FOR PRESENTATION

This audiovisual package is designed both for self-study and for group presentation. For an effective smooth-running group presentation, plan well in advance. Have the audiovisual projector, the screen, and seating set up. Have the workbooks ready for distribution.

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SEQUENCE OF EVENTS

Welcome the group and prepare them as previously described. Tell them that a workbook will be distributed. Add that it was prepared to expand the information in the filmstrip. Also, inform them of the built-in review periods.

Show Part I of the program Erosion and Sedimentation. Be sure the trainee understands and can define the process of erosion. Point out the damages it causes and explain the mechanics of how erosion occurs.

Show Part II. The trainee will have a detailed explanation of the four major physical factors that influence the severity of erosion at a site: climate, vegetation, soil and length and steepness of slope.

Show Part III. Be sure the trainee understands and can define the process of sedimentation. Stress the severe damage it causes to the environment and its effect on plant, animal and human life. Review the Soil Loss Equation and the methods of measuring soil loss.

IDEAS FOR DISCUSSION

1. Why are we not overly concerned with the control of natural or geologic erosion?

2. Discuss the factors that contribute to erosion in urbanizing areas.

3. What are the activities of man that bring on accelerated shore erosion?

4. Why is wind erosion not usually considered a serious environmental threat in urbanizing areas?

5. What are the causes of accelerated stream channel erosion?

6. How do the characteristics of flow affect sedimentation?

7. What do we mean by "Nature of the Particles"?

8. How does sediment pollution affect man?

9. What is the difference between suspended and bedload sediment?

10. What is the function of runoff control structures?

11. How is Degree of Slope arrived at?

12. How is temperature related to soil erosion?

13. What is meant by frequency of rainfall?

14. How does organic matter protect the soil?

15. Why is vegetation an important factor influencing soil erosion?

16. What are the soil properties influencing erodibility?

17. What effect does the presence of organic matter in a soil have on soil structure?

18. What can cause gully erosion?

19. What is raindrop splash?

Erosion and Sedimentation

WORKBOOK - ANSWERS

Questions 1. WB 4-16

1. Erosion
2. Geologic (geological)
3. Accelerated
4. construction, accelerated
5. Vegetation

Questions 2. WB 4-17

1. True
2. False
3. True
4. True
5. False

Questions 3. WB 4-18

1. e
2. c
3. b
4. a

Questions 4. WB 4-19

1. Temperature
2. rainfall
3. runoff
4. moisture content
5. organic material

Questions 5. WB 4-20

1. True
2. True
3. True
4. False
5. False

Questions 6. WB 4-21

1. f
2. d
3. d

Questions 7. WB 4-22

1. Sedimentation
2. Sediment pollution
3. transported
4. Physical factors, transported or deposited

Questions 8. WB 4-23

1. True
2. True
3. False
4. True

Questions 9. WB 4-24

1. "K"
2. "R"
3. "L"
4. "P"
5. sheet, rill

Questions 10. WB 4-25

1. False
2. True
3. True
4. True

Questions 11 (Review) WB 4-26

1. Erosion
2. Natural, geologic
3. geologic (geological)
4. accelerated
5. increase
6. accelerated
7. farming, construction, rainfall, runoff
8. Urbanizing
9. contributing
10. sheet
11. Stream channel, runoff, removal, construction
12. Shore
    Littoral
13. wind
14. Sheet
15. Rilling
16. Depth
17. Intensity
18. Infiltration
19. Organic material
20. vegetation
21. texture, structure
22. Cohesion
23. 20
24. Sedimentation
25. Sediment pollution
26. suspended, bedload
27. Universal
28. "K"
29. "L"
30. cropping management
31. Gaging
32. samples

LESSON 5

EROSION AND SEDIMENT CONTROL

PLANT MATERIALS

INSTRUCTOR'S MANUAL

PLANT MATERIALS

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the audiovisual slides, workbook, and tests for the self-instructional audiovisual lessons on Plant Materials.

OBJECTIVES

The objectives of this instructional package are to promote better understanding among contractors, foremen, highway and transportation officials, inspectors, architects and engineers, and other construction personnel as to:

- the importance of plant materials
- the classification of plant materials
- the basic structure and functions of various plant materials
- the types, requirements and uses of various plants, especially grasses and legumes
- the planning requirements for the use of plant materials
- maintenance

PREPARATION FOR PRESENTATION

This instructional package is designed both for individual study and for group presentation. For an effective, smooth-running group presentation, plan well in advance. Have the audiovisual projector, the screen, and the seating set up. Have the workbooks and quizzes ready for distribution.

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SEQUENCE OF EVENTS

Welcome the group and prepare them as previously described. Tell them that workbooks and quizzes will be distributed; inform the audience that these materials were prepared to expand the information in the filmstrips. Also, inform them of the built-in review periods.

Show the program. Stress the importance of using the proper procedures in Plant Materials. Be sure the trainees understand the need to define a clear goal -- have specific objectives, and utilize the best techniques in order to make good use of plant materials.

SUGGESTED QUESTIONS FOR DISCUSSION

1. What are some of the advantages of vegetative stabilization over non-vegetative stabilization, such as using poured concrete or other rigid structures? When is it necessary to use rigid structures instead of plant materials.

2. What are some ways to aid the growth of plant materials on problem soils, such as soils with exceedingly low pH's?

3. Do parking lots have to be covered entirely with asphalt or some other impermeable material, or can large areas of parking space be vegetated or surfaced with crushed stone? How?

4. If an area stabilized with grasses is not mown regularly, will it remain the same, or will it change? If it does change, what sorts of changes will take place, and are these changes desirable?

5. What sorts of conditions are necessary for establishing grasses by seeding? When is it better to sod?

6. Is it safe to assume that the same plant materials will grow successfully throughout a given state, or can climatic conditions vary within a state? What is (are) the climatic zone(s) within this state?

7. What are the most damaging pests and weeds in this area? What are the best ways to control them?

Review Answers

Questions 1 WB 5-21

1. T 2. F 3. T 4. F 5. T 6. F
7. T

Questions 2 WB 5-22

1. a,c,d 2. b,c 3. c,d 4. a
5. c 6. a 7. b,c,e,g 8. b,d,e
9. a,c,e

Questions 3 WB 5-24

1. crown 2. tap 3. tap, tap
4. fibrous, tap 5. black locust 6. crown
7. temperature 8. leaves

Questions 4 WB 5-25

1. F 2. T 3. T 4. F 5. T
6. T 7. F 8. T

Questions 5 WB 5-26

1. C 2. B 3. B 4. D 5. C
6. A 7. A

Questions 6 WB 5-28

1. Wet or saturated 2. reed canarygrass, wet
3. pH, pH 4. redtop (grass)
5. smooth cordgrass, American beachgrass, Tufcote bermudagrass (any two of these)
6. the literature

Questions 7 WB 5-29

1. b,c 2. a 3. c 4. a,c
5. b,c,e 6. a,c,d,e,f

Questions 8 WB 5-31

1.	D	2.	A	3.	C	4.	A	5.	B
6.	A								

Questions 9 WB 5-33

1.	T	2.	F	3.	F	4.	F	5.	T
6.	T	7.	F	8.	T	9.	F	10.	F
11.	T	12.	T	13.	T	14.	T	15.	F
16.	T	17.	F						

LESSON 6

EROSION AND SEDIMENT CONTROL

CONTROL OF RUNOFF DURING CONSTRUCTION

INSTRUCTOR'S MANUAL

CONTROL OF RUNOFF DURING CONSTRUCTION

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the audiovisual slides and workbook for the audiovisual package is to promote Control of Runoff During Construction.

OBJECTIVE

The objective of this audiovisual package is to promote better understanding among erosion and sediment control specialists as to:

- what stormwater runoff is and why it must be prevented.
- the three major causes of runoff during construction.
- the three special grading practices used to control runoff.
- the different kinds of diversion structures and their uses.
- the different kinds of disposal structures and their uses.

PREPARATION FOR PRESENTATION

This audiovisual package is designed both for self-study and for group presentation. For an effective smooth-running group presentation, plan well in advance. Have the audiovisual projector, the screen and seating set up. Have the workbooks ready for distribution.

Before presenting the filmstrip, preview it and read the workbook so that you can have their contents clear in your mind and can answer questions. Previewing the filmstrip also assures you that the audiovisual projector is working properly.

Finally, prepare the audience. Explain the objectives of the audiovisual package. Describe the sequence of events of the presentation. Tell them that there will be a short review quiz at the end of the program to help them discover how well they have understood the filmstrip.

PRESENTATION

The program can be viewed continuously. However, because of the quantity and detail of the information presented, it is suggested that you view it in sections. The projector and audio is programmed to allow a fifteen second pause at review points. This will provide time to stop the projector for question and answer periods. Always make sure everyone understands each part of the program before going on to the next part.

PROJECTOR OPERATION FOR AUDISCAN EQUIPMENT ONLY

To operate the Audiscan audiovisual projector insert the appropriate cartridge with the arrow up into the side of the machine. Turn the machine on using the Volume On/Off control. To start the program, press the Start switch. Focus as desired. To restart the projector when it stops for questions, push the start portion of the Program Hold/Start switch. Should the audio and visual portions of the filmstrip become unsynchronized for any reason, synchronization may be reestablished by holding the Lock switch to the left and at the same time depressing either the Film Hold or Film Advance switch as appropriate.

SEQUENCE OF EVENTS

Welcome the group and prepare them as previously described. Tell them that a workbook will be distributed. Add that it was prepared to expand the information in the filmstrips. Also, inform them of the built-in review periods.

Show Part I. Review the construction practices that cause runoff. Discuss the three general ways to decrease runoff. Be sure the trainee can distinguish between temporary and permanent diversion structures.

Show Part II. Be sure the trainee understands the uses of the level spreader and its design specifications -- the flexible downdrain and its components -- sectional downdrains and flumes. Review the role of energy dissipators in preventing erosion.

IDEAS FOR DISCUSSION

1. Discuss three (3) ways construction causes runoff.

2. Discuss the role of natural vegetation in preventing runoff.

3. Discuss the role of natural vegetation decrease runoff during construction.

4. Discuss three (3) special grading practices aimed at decreasing the amount of runoff.

5. Distinguish between temporary and permanent diversion structures.

6. Discuss the uses of the interceptor dike.

7. Discuss the importance of maintenance in using dikes as outlined in the workbook.

8. Discuss the design criteria for interceptor dikes as outlined in the workbook.

9. Discuss the various uses and types of:
   a. gravel interceptor dikes
   b. diversion dikes
   c. diversions

10. Discuss the design specifications for gravel interceptor dikes and diversion dikes shown in the workbook.

11. Discuss the role of maintenance in the use of diversion structures.

12. Discuss the uses and design specifications of the level spreader.

13. Discuss the use of the flexible downdrain.

14. Discuss the components of the flexible downdrain.

15. Discuss the maintenance practices for the flexible downdrain.

16. Discuss the uses of sectional downdrains and flumes.

17. Discuss the role of the energy dissipator in preventing erosion.

Control of Runoff

WORKBOOK - ANSWERS

Page WB 6-9

1. increased runoff
2. faster
3. sediment
4. Vegetation
5. soil

Page WB 6-10

1. True
2. False
3. True
4. False

Page WB 6-11

1. b
2. a

Page WB 6-15

1. gravel interceptor
2. divert
3. compacted
4. woodland
5. diversion
6. slide

Page WB 6-16

1. True
2. False
3. True
4. False
5. False

Page WB 6-18

1. d
2. b

Page WB 6-19

1. 2 x 4
2. piping
3. flume
4. erosion
5. slow
6. 12

Page WB 6-20

1. Rain, absorbed, stormwater runoff
2. a. Grading, vegetation
   b. natural balance, gentle, steep
   c. roofs, concrete, asphalt
3. a. Decreasing, special, practices
   b. Diversion
4. a. Staging
   b. Surface roughening
   c. vegetated buffers
5. True
6. a. soil
   b. gravel
7. diversion dike, compacted, top, construction
8. diversion ditch
9. well vegetated
10. level spreader
11. a. Flexible downdrain
    b. Sectional downdrain
    c. Flume
12. Piping
13. energy dissipator, runoff

LESSON 7

EROSION AND SEDIMENT CONTROL

VEGETATIVE SOIL STABILIZATION

INSTRUCTOR'S MANUAL

VEGETATIVE SOIL STABILIZATION

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the audiovisual slides and workbook for the audiovisual presentation on Vegetative Soil Stabilization.

OBJECTIVE

The objective of this audiovisual package is to promote better understanding among erosion and sediment control specialists as to:

- the difference between critical and non-critical areas.
- the major types of plant materials and their uses.
- the factors to be considered in selecting plant materials.
- soil conditioning, planting, and plant maintenance techniques.

PREPARATION FOR PRESENTATION

This instructional package is designed both for self-study and for group presentation. For an effective smooth-running group presentation, plan well in advance. Have the audiovisual projector, the screen and seating set up. Have the workbooks ready for distribution.

Before presenting the filmstrip, preview it and read the workbook so that you can have their contents clear in your mind and can answer questions. Previewing the filmstrip also assures you that the audiovisual projector is working properly.

Finally, prepare the audience. Explain the objectives of the audiovisual package. Describe the sequence of events of the presentation. Tell them that there will be a short review quiz at the end of the program to help them discover how well they have understood the filmstrip.

PRESENTATION

The program can be viewed continuously. However, because of the quantity and detail of the information presented, it is suggested that you view it in sections. The projector and audio is programmed to allow a fifteen second pause at review points. This will provide time to stop the projector for question and answer periods. Always make sure everyone understands each part of the program before going on to the next part.

PROJECTOR OPERATION FOR AUDISCAN EQUIPMENT ONLY

To operate the Audiscan audiovisual projector insert the appropriate cartridge with the arrow up into the side of the machine. Focus as desired. To restart the projector when it stops for workbook questions, push the start portion of the Program Hold/Start switch. Should the audio and visual portions of the filmstrip become unsynchronized for any reason, synchronization may be reestablished by holding the Lock switch to the left and at the same time depressing either the Film Hold or Film Advance switch as appropriate.

SEQUENCE OF EVENTS

Welcome the group and prepare them as previously described. Tell them that a workbook will be distributed. Add that it was prepared to expand the information in the filmstrips. Also, inform them of the built-in review periods.

Show Part I of Vegetative Soil Stabilization. Be sure the trainee understands and can handle different sunlight exposure problems. Review each kind of vegetation and their advantages or disadvantages in a particular situation. Stress the importance of soil type and condition in the establishment of vegetation.

Show Part II. Discuss the three methods of establishing vegetation. Review the uses of lime and fertilizers. Be sure the trainee is familiar with the mulch application rates and the importance of mulch.

Show Part III. Be sure the trainee knows how to prepare, vegetate and maintain critical areas. Review the different pieces of equipment used throughout each stage of revegetation.

IDEAS FOR DISCUSSION

1. What are the essential requirements to sustain vegetation?

2. How can sunlight exposure problems be solved?

3. What is the role of herbaceous plants where an area is returned to natural cover?

4. What are the advantages of using legumes?

5. How important is maintenance as a factor in plant material selection?

6. What are deciduous plants?

7. How can the problem of droughty soil be handled?

8. How can the problem of wet soil be handled?

9. Why is it better to use a legume in some cases than a grass?

10. When is sodding the most desirable method of establishing vegetation?

11. Why is it good practice to plant a test plot?

(continued next page)

12. What is lime?

13. What are the purposes of quick and slow releasing fertilizers?

14. How is the quality of topsoil determined?

15. What is the application rate of straw per acre?
    wood fiber?
    wood chips?

16. Why is a heavier application of mulch required on steep slopes and along highways?

17. How are inaccessible areas handled?

18. What is a harrow?

19. What does a disc do?

20. When is GLASSROOT used?

21. What are several methods for securing mulch?

22. What is the correct way to place sod?

23. When is periodic maintenance performed?

24. Why is height an important factor in the maintenance of grasses?

Vegetative Soil Stabilization

WORKBOOK - ANSWERS

Questions 1. WB 7-21

1. critical, erodible
2. critical
3. non-critical, maintained
4. Temporary, less
5. Permanent
6. Time, year
7. location
8. soil, condition

Questions 2. WB 7-22

1. d
2. e
3. c
4. c
5. b
6. e

Questions 3. WB 7-24

1. False
2. False
3. False
4. True

Questions 4. WB 7-25

1. temperature, rainfall, exposure
2. exposure
3. Sunlight
4. wooded
5. fertility, acid
6. neutral
7. False
8. False
9. True

Questions 5. WB 7-26

1. d
2. b,d
3. b
4. b

Questions 6. WB 7-27

1. weather
2. fertilizer
3. phosphorus, potash
4. raises
5. magnesium, acid

Questions 7. WB 7-28

1. d
2. d
3. c
4. d

Questions 8. WB 7-29

1. False
2. True
3. True
4. False
5. True
6. True

Questions 9. WB 7-30

1. mulched
2. asphalt tack
3. Excelsior blanket
4. mulch anchoring tool
5. wood fiber
6. conditioned

Questions 10. WB 7-31

1. True
2. True
3. False
4. False
5. False

Questions 11 (Review) WB 7-32

1. sediment, eroded
2. utility easements, waterways, building sites
3. established, maintained
4. less
5. a. time
   b. location
   c. type, condition
6. more
7. grasses
9. Kentucky 31 tall fescue, weeping lovegrass (also; creeping red fescue, tufcote bermuda grass, and redtop)
9. Legumes
10. nitrogen
11. Crownvetch
12. herbaceous plants
13. residential areas, weeds
14. noxious, noxious
15. foliage, winter
16. area beautification, noise abatement
17. ground covers
18. 1. area beautification
    2. privacy
    3. noise abatement
19. Climatic conditions
    Soil conditions
    Site usage
    Site maintenance
20. Climatic
21. sunlight, wind
22. woodland
23. fertility, acid
24. basic (alkaline)
25. lime
26. legume
27. water, plant
28. a. material, resistant
    b. top dress, 4, 6
29. crushed stone
30. seeding, sodding, sprigging
31. seeding
32. Sprigging, seeding
33. Sodding, quickly
34. Categorized, cool, warm
35. fertilizers, lime
36. nitrogen, phosphorus, potash
37. acid soil
38. a. Protects, rain, runoff
    b. Insulates, heat, cold
    c. moisture

(Continued next page)

39. Straw, wood chips, wood fiber
(also: fiberglass products)

40. Topsoil

41. high moisture content
poor shear strength
slope steepness

42. lime, fertilizer

43. tacked or anchored

44. Emulsified asphalt
Netting
Chemical binders (also: peg and string)

45. Conditioned

46. follow-up, periodic

47. Periodic

48. Follow-up

49. periodic

LESSON 8

EROSION AND SEDIMENT CONTROL

STREAM EROSION CONTROL

INSTRUCTOR'S MANUAL

STREAM EROSION CONTROL

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the audiovisual slides, workbook, and tests for the self-instructional audiovisual lessons on Waterway Erosion Control.

OBJECTIVES

The objectives of this instructional package are to promote better understanding among contractors, foremen, highway and transportation officials, inspectors, architects and engineers, and other construction personnel as to:

- the principles of stream erosion and channel erosion control
- factors that effect the amount and rate of stream erosion
- vegetative stream stabilization with or without secondary reinforcement
- structural channel stabilization
- some of the aspects of stormwater management
- the necessity of maintenance

PREPARATION FOR PRESENTATION

This instructional package is designed both for individual study and for group presentation. For an effective, smooth-running group presentation, plan well in advance. Have the audiovisual projector, the screen, and the seating set up. Have the workbooks and quizzes ready for distribution.

Before presenting the filmstrip, preview it and read the workbook so that you can have their contents clear in your mind and can answer questions. Previewing the filmstrip also assures you that the audiovisual projector is working properly.

Finally, prepare the audience. Explain the objectives of the instructional package. Describe the sequence of events of the presentation. Tell them that there will be a short

quiz at the end of the meeting or at intervals during the presentation, depending on which approach you choose to follow. These quizzes will help them discover how well they have understood the filmstrip.

PRESENTATION

The program can be viewed continuously. However, because of the quantity and detail of the information presented, it is suggested that you view it in sections. The projector and audio is programmed to allow a fifteen second pause at review points. This will provide time to stop the projector for question and answer periods. Always make sure everyone understands each part of the program before going on to the next part.

OPERATING THE PROJECTOR FOR AUDISCAN EQUIPMENT ONLY

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SEQUENCE OF EVENTS

Welcome the group and prepare them as previously described. Tell them that workbooks and quizzes will be distributed; inform the audience that these materials were prepared to expand the information in the filmstrips. Also, inform them of the built-in review periods.

Show the program. Stress the importance of understanding the principles of waterway erosion control. Be sure the trainees understand the need to define a clear goal -- have specific objectives, and utilize the best techniques in order to control waterway erosion.

SUGGESTED QUESTIONS FOR DISCUSSION

1. What is a stream? Should we consider intermittent flows as streams? Floodplains?

2. Is a stream ever fully stabilized? Is it po sible to prevent all erosion in a stream? Or, should we aim for sufficient control?

3. Is it possible to overdesign stream erosion control structures and stormwater management devices?

4. In this area, has the incidence of severe flooding increased, decreased, or remained the same during the last twenty years? If it seems to have increased, to what do you attribute this increase?

5. What are some of the reasons why builders construct homes and other facilities in floodplains, despite the risks involved? What can be done to prevent this mistake?

6. Besides their use in stormwater management, what are some of the other uses for which floodplains are suitable?

7. Are detention basins the best way to handle excess runoff?

Review Answers

Questions 1 WB 8-19

1. channel, managing runoff 2. heavy rains
3. vegetative, structures 4. intermittent streams
5. hydraulic 6. (two of these) hydraulic force, solution, corrasion

Questions 2 WB 8-20

1. C 2. C 3. A 4. C 5. C

Questions 3 WB 8-22

1. a,b,c,d 2. b 3. b 4. a,b,d 5. b,d

Questions 4 WB 8-23

1. a,b,c 2. d 3. b 4. b,d 5. b,c

Questions 5 WB 8-24

1. T 2. F 3. T 4. T 5. F 6. T
7. T 8. F 9. T

Questions 6 WB 8-25

1. D 2. D 3. D 4. A 5. B

Questions 7 WB 8-27

1. after, before 2. hold back, originates
3. increase, increased 4. erosion or flooding
5. rooftop ponding 6. reduce, storage
7. porous asphalt 8. store, controlled rate
9. detain runoff, parking lots

Questions 8 WB 8-28

1. T 2. T 3. F 4. F 5. F 6. T

7. T 8. F

Questions 9 WB 8-29

1. T 2. T 3. T 4. F 5. F 6. F

7. F 8. T 9. T

LESSON 9

EROSION AND SEDIMENT CONTROL

TEMPORARY SOIL STABILIZATION

INSTRUCTOR'S MANUAL

TEMPORARY SOIL STABILIZATION

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the audiovisual slides, workbook, and tests for the self-instructional audiovisual lessons on Temporary Soil Stabilization.

OBJECTIVES

The objectives of this instructional package are to promote better understanding among contractors, foremen, highway and transportation officials, inspectors, architects and engineers, and other construction personnel as to:

- the need for temporary soil stabilization in certain situations, in the development of areas and sites
- the proper use of vegetative materials for temporary soil stabilization
- the proper use of non-vegetative methods of temporary soil stabilization
- the factors that determine which method of temporary stabilization will be best suited to a certain situation

PREPARATION FOR PRESENTATION

This instructional package is designed both for individual study and for group presentation. For an effective smooth-running group presentation, plan well in advance. Have the audiovisual projector, the screen, and the seating set up. Have the workbooks and quizzes ready for distribution.

Before presenting the filmstrip, preview it and read the workbook so that you can have their contents clear in your mind and can answer questions. Previewing the filmstrip also assures you that the audiovisual projector is working properly.

Finally, prepare the audience. Explain the objectives of the instructional package. Describe the sequence of events of the presentation. Tell them that there will be a short quiz at the end of the meeting or at intervals during the presentation, depending on which approach you choose to follow. These quizzes will help them discover how well they have understood the filmstrip.

PRESENTATION

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OPERATING THE PROJECTOR FOR AUDISCAN EQUIPMENT ONLY

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SEQUENCE OF EVENTS

Welcome the group and prepare them as previously described. Tell them that workbooks and quizzes will be distributed; inform the audience that these materials were prepared to expand the information in the filmstrips. Also, inform them of the built-in review periods.

Show the program. Stress the importance of using the proper procedures in temporary soil stabilization. Be sure the trainees understand the need to define a clear goal -- have specific objectives, and utilize the best techniques in order to stabilize soil, on a temporary basis, properly.

SUGGESTED QUESTIONS FOR DISCUSSION

1. Is temporary soil stabilization used as often as it should be?

2. What are the costs of erosion and sedimentation? What are some of the benefits of adequate erosion and sediment control measures?

3. What bureaus or agencies evaluate on-site conditions and determine how long graded areas may be left uncovered?

4. How important is it to preserve topsoil? Is all topsoil rich in nutrients, or does some of it need fertilizer and lime?

5. When would you use mulches instead of vegetative stabilization? When would you use mulches to start vegetative stabilization?

6. When are jute netting and excelsior blankets useful for temporary stabilization?

7. What types of vegetation are better for spring and summer? What types of vegetation are better for fall?

8. Can various types of plant materials be mixed on one site, for temporary stabilization?

Review Answers

Questions 1

1. T 2. F 3. F 4. T 5. T

Questions 2

1. compacted 2. plants 3. contour roughening
4. oats, wheat, rye, sudangrass (three of these)
5. legumes 6. nitrogen, nitrogen
7. improves, organic 8. fertilizer,lime
9. fertilizer 10. contour 11. mulch
12. straw, hay 13. 2000, 60
14. mulch blower

Questions 3

1. a. c. 2. t 3. b. 4. b. c. d.
5. b. d. 6. b. 7. a. c. 8. d. e. g.

Questions 4

1. shielding, bind 2. soil conditions, climate, steepness
3. test plot, entire site 4. several test plots

Questions 5

1. T 2. F 3. T 4. F 5. T 6. F
7. F 8. T 9. T 10. F 11. T

Questions 6

1. b. 2. c. 3. a. b. d. f. g. h. i. 4. a. b.
5. b. e. 6. a. 7. b. c. 8. b.

LESSON 10

EROSION AND SEDIMENT CONTROL

CONTROL OF SEDIMENT

INSTRUCTOR'S MANUAL

CONTROL OF SEDIMENT GENERATED ON CONSTRUCTION SITES

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the audiovisual slides, and workbook for the self-instructional audiovisual lesson on Control of Sediment Generated on Construction Sites.

OBJECTIVE

The objective of this instructional package is to promote better understanding among erosion and sediment control specialists as to:

- the kinds of sediment control structures and their functions.
- the importance of proper construction and regular maintenance of sediment control structures.

PREPARATION FOR PRESENTATION

This instructional package is designed both for self-study and for group presentation. For an effective smooth-running group presentation, plan well in advance. Have the audiovisual projector, the screen, and the seating set up. Have the workbooks ready for distribution.

Before presenting the filmstrip, preview it and read the workbook so that you can have their contents clear in your mind and can answer questions. Previewing the filmstrip also assures you that the audiovisual projector is working properly.

Finally, prepare the audience. Explain the objectives of the instructional package. Describe the sequence of events of the presentation. Tell them that there will be a short review at the end of the program to help them discover how well they have understood the filmstrip.

PRESENTATION

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PROJECTOR OPERATION FOR AUDISCAN EQUIPMENT ONLY

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SEQUENCE OF EVENTS

Welcome the group and prepare them as previously described. Tell them that a workbook will be distributed. Add that it was prepared to expand the information in the filmstrips. Also, inform them of the built-in review periods.

Show Part I of the program Control of Sediment Generated on Construction Sites. Review the basic functions of sediment traps. Be sure the trainees are familiar with the vegetative sediment control practices.

Show Part II. Stress the importance of maintenance for all sediment control structures. Make sure the trainees understand the important construction criteria for sediment basins.

IDEAS FOR DISCUSSION

1. What do we mean by "control of sediment generated on construction sites"?
2. Why can we only expect reasonable erosion control?
3. How do we keep sediment from damaging the environment?
4. Why must both defenses be used?
5. Why is good planning important in the preserving of a buffer area?
6. How is the ability of a buffer to trap sediment improved?
7. Explain the use of contour strips.
8. Why must care be exercised in utilizing woodland areas for trapping sediment?
9. Discuss the use of grass and legumes as filters.
10. Discuss the construction of the sod inlet filter.
11. Discuss the construction of the gravel inlet filter.
12. Why is maintenance so important?
13. How is the possibility of piping reduced on temporary sediment traps?
14. How is a straw bale perimeter barrier used?
15. How can the life of a straw bale sediment trap be prolonged?
16. How important is maintenance with temporary sediment traps?

17. Describe some ways sediment basins are cleaned.

18. What is the importance of consulting local and state regulations before constructing a sediment basin?

19. What is a common cause of the failure of dry temporary sediment basins?

20. Why is the maintenance of a sediment basin so important?

Control of Sediment Generated

on Construction Sites

WORKBOOK - ANSWERS

Questions 1

1. Erosion control, reduces
2. Sediment control
3. water
4. sediment
   a. speed, trap
   b. length, detained
   c. size, weight

Questions 2

1. b
2. b

True or False

1. True
2. False
3. True
4. True
5. True
6. True

Questions 3

1. a
2. d
3. d

Questions 4

1. Structural practices
2. gravel inlet
3. highly resistent
4. type, inlet

Questions 5

1. True
2. True
3. False
4. False
5. True
6. False

Question 6

1. d
2. b
3. b

Questions 7

1. reduces
2. second
3. a. Speed, trap
   b. Length, detained
   c. Size, weight
4. vegetative buffer, sediment
5. maintaining
6. vegetation
7. grass
8. overland
9. Contour stripping
10. flow, runoff
11. vegetated buffers, contour
12. graded, buffers
13. light
14. gravel inlet
15. type, inlet
16. roadway
17. bale, sandbag
18. undercutting
19. traps, sandbag, straw bale, six
20. sediment
21. excavated, costs little
22. Sediment basins
23. temporarily runoff
24. riser pipe perforations
25. a.

LESSON 11

EROSION AND SEDIMENT CONTROL

EROSION AND SEDIMENT CONTROL PLANNING

INSTRUCTOR'S MANUAL

EROSION AND SEDIMENT CONTROL PLANNING AND IMPLEMENTATION

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the audiovisual slides, workbook, and tests for the self-instructional audiovisual lessons on Erosion and Sediment Control.

OBJECTIVES

The objectives of this instructional package are to promote better understanding among contractors, inspectors, architects and engineers, and other construction personnel as to :

- the necessity of erosion and sediment control planning and implementation
- the responsibilities of preliminary planning and design
- the costs of controlled vs uncontrolled development
- sources of information and tools used for site planning in relation to erosion and sediment control
- important aspects and goals of erosion and sediment control planning

PREPARATION FOR PRESENTATION

This instructional package is designed both for individual study and for group presentation. For an effective smooth-running group presentation, plan well in advance. Have the audiovisual projector, the screen, and the seating set up. Have the workbooks and quizzes ready for distribution.

Before presenting the filmstrip, preview it and read the workbook so that you can have their contents clear in your mind and can answer questions. Previewing the filmstrip also assures you that the audiovisual projector is working properly.

Finally, prepare the audience. Explain the objectives of the instructional package. Describe the sequence of events of the presentation. Tell them that there will be a short quiz at the end of the meeting or at intervals during the presentation, depending on which approach you choose to follow. These quizzes will help them discover how well they have understood the filmstrip.

PRESENTATION

The program can be viewed continuously. However, because of the quantity and detail of the information presented, it is suggested that you view it in sections. The projector and audio is programmed to allow a fifteen second pause at review points. This will provide time to stop the projector for question and answer periods. Always make sure everyone understands each part of the program before going on to the next part.

OPERATING THE PROJECTOR FOR AUDISCAN EQUIPMENT ONLY

To operate the Audiscan audiovisual projector insert the appropriate cartridge with the arrow up into the side of the machine. Turn the machine on using the Volume On/Off control. To start the program, press the start switch. Focus the image. Throughout the program the projector will stop while you answer questions in the workbook. To restart the projector, once again push the Start portion of the Program Hold/Start switch. Should the audio and visual portions of the filmstrip become unsynchronized for any reason, you can reestablish synchronization, by holding the Lock switch to the left and at the same time depressing either the Film Hold or Film Advance switch, whichever is appropriate.

SEQUENCE OF EVENTS

Welcome the group and prepare them as previously described. Tell them that workbooks and quizzes will be distributed; inform the audience that these materials were prepared to expand the information in the filmstrips. Also, inform them of the built-in review periods.
Show the program. Stress the importance of using the proper procedures in erosion and sediment control. Be sure the trainees understand the need to define a clear goal -- have specific objectives, and utilize the best techniques in order to understand the design and implementation of an erosion and sediment control plan.

SUGGESTED QUESTIONS FOR DISCUSSION

1. What types of landscapes are considered critical areas and should be protected from erosion?

2. What are the proper techniques and procedures of grading? What effect can improper grading have on the soil?

3. Why is it important to control runoff water on the site?

4. What are some critical features that must be evaluated before the development of a site commences?

5. What features should be considered during the design stage of development? What are the responsibilities of the owner or developer?

6. What are the costs involved in setting up and following an erosion and sediment control plan?

7. What are some sources of information for site planning, in relation to erosion and sediment control? What type of information can each provide?

8. Of what use are topographic and quadrangle maps in site planning? How are aerial photographs helpful?

9. What are the five key requirements of erosion and sediment control planning? What is the importance of each point?

10. What are some of the features which should be included in an erosion and sediment control plan? Why do plans vary from site to site?

Review Answers

Questions 1

1. forests, floodplains, steep slopes, shorelines of bays and inland lakes, waterways and streams, man-made impoundments sucn as reservoirs (three of these)

2. planning, implementation 3. rainfalls 4. runoff water

5. grading 6. volume, velocity

Questions 2

1. F 2. T 3. F 4. T 5. F 6. T

Questions 3

1. c 2. a, c 3. b 4. a

Questions 4

1. e 2. c 3. b 4. d 5. a 6. f
7. g
1. c 2. b 3. e 4. a 5. d

Questions 5

1. B 2. B 3. A 4. D 5. B 6. B
7. C 8. A

Questions 6

1. preliminary planning 2. design stage
3. site plan 4. 1) identify, protect
2) reduce 3) trap 4) stabilize 5) require
5. grading contours, structures, designs, notes

LESSON 12

EROSION AND SEDIMENT CONTROL

WOODED SITE DEVELOPMENT

INSTRUCTOR'S MANUAL

WOODED-SITE DEVELOPMENT

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the audiovisual slides, workbook, and tests for the self-instructional audiovisual lessons on Wooded-Site Development.

OBJECTIVES

The objectives of this instructional package are to promote better understanding among contractors, foremen, highway and transportation officials, inspectors, architects and engineers, and other construction personnel as to:

- the structure and growth of trees
- the selection of appropriate trees for preservation during the development of wooded sites
- the major kinds of damage that can occur to trees, in the development of wooded sites, and the practices that will help avoid this damage
- the correct procedures to be followed, to help trees recover from the stress of construction and from minor damage

PREPARATION FOR PRESENTATION

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SEQUENCE OF EVENTS

Welcome the group and prepare them as previously described. Tell them that workbooks and quizzes will be distributed; inform the audience that these materials were prepared to expand the information in the filmstrips. Also, inform them of the built-in review periods.

Show the program. Stress the importance of using the proper procedures in wooded-site development. Be sure the trainees understand the need to define a clear goal -- have specific objectives, and utilize the best techniques in order to develop wooded areas properly.

SUGGESTED QUESTIONS FOR DISCUSSION

1. Is the minimum size of one-half to one-third acre, for wooded-site development, a reasonable guideline? Is it risky to try to get away with smaller lots?

2. How can we motivate the appropriate people, to make sure that the correct procedures are followed?

3. When is it better to remove a tree, before construction begins, than to leave it standing?

4. How valuable are trees? Are some trees more valuable than others?

5. What persons or agencies are the most reliable and best able to provide help with specific problems relating to trees and wooded-site development?

6. How likely are the oldest and largest trees to suffer damage during construction?

7. Why is it a good idea to locate roadways so as to do the least damage to valuable stands, and to minimize cuts and fills?

8. Are most of the principles outlined in this program standard procedure? If some are not, should they be adopted?

9. Should these principles be incorporated as part of state law?

10. To the developer, what are the advantages and disadvantages of following the proper procedures for development in wooded areas?

Review Answers

Questions 1

1. a. c. 2. b. c. e. f. 3. a. b. c. 4. a. d. e.
5. F 6. a. 7. a. 8. F
9. a. b. 10. F

1. second growth 2. seedlings 3. saplings
4. pole-size, wind throw 5. small sawtimber
6. large sawtimber 7. crown, crotches, trunk
8. veteran

Questions 2

1. T 2. F 3. T 4. F 5. T 6. T
7. F 8. F 9. T 10. T 11. F 12. F
13. T 14. F

Questions 3

1. a. 2. b. 3. b. 4. a. 5. c. 6. F
7. b. 8. T 9. b. 10. a.

Questions 4

1. T 2. T 3. T 4. T 5. T 6. T
7. T 8. T 9. T 10. T 11. T

1. branches 2. Bark, drainage, wound dressing
3. punching holes, loosened, 18
4. Fertilization, fertilize, dripline, fertilizer
5. organic litter 6. slowly

Questions 5

1.	c.	2.	c.	3.	a.	4.	a.	5.	b.	6.	b.
7.	a.	8.	c.	9.	b.	10.	a.	11.	a.	12.	b.
13.	a.	14.	d.	15.	b.	16.	b.	17.	a.		

Questions 5 Continued

1.	T	2.	F	3.	F	4.	F	5.	T	6.	T
7.	F	8.	T								

LESSON 13

EROSION AND SEDIMENT CONTROL

FOREMAN - INSPECTOR RESPONSIBILITIES

INSTRUCTOR'S MANUAL

FOREMAN - INSPECTOR

RESPONSIBILITIES

PURPOSE

The purpose of the Instructor's Manual is to help you make the best use of the audiovisual slides, and workbook for the self-instructional audiovisual lesson on Foreman-Inspector Responsibilities.

OBJECTIVE

The objective of this audiovisual package is to promote better understanding among erosion and sediment control specialists as to:

- the roles of the foreman and inspector.
- the responsibilities of the foreman-inspector team.
- the concept of "social control" or enforcement".

PREPARATION FOR PRESENTATION

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SEQUENCE OF EVENTS

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Show the program, Foreman-Inspector Responsibilities. Review the roles of the foreman and the inspector. Be sure the trainee understands the five responsibilities of the Foreman-Inspector Team. The trainee should also know the importance of social control or enforcement.

IDEAS FOR DISCUSSION

1. Explain the "shared" responsibility of the foreman and the inspector.

2. Can the roles of the foreman and inspector be viewed separately?

3. What is the best way to obtain a "working knowledge" of current practices?

4. How do you plan your activities?

5. How essential is maintenance for effective erosion and sediment control?

6. How important is it that practices meet design specifications as closely as possible?

7. How can problems still occur in the field inspite of the best planning and design?

8. Why do the inspector and foreman have to play the role of "amateur psychologists"?

Foreman - Inspector Responsibilities

WORKBOOK - ANSWERS

Questions 1.

1. False
2. True
3. False
4. True
5. False
6. False

Questions 2.

1. e
2. a,b,c,d
3. e
4. c

Questions 3.

1. a,b,c,d
2. b
3. a,b,c

Questions 4.

1. Minor
2. enforcement
3. controlling, communicate, educate
4. enforcement
5. plan
6. contract

Questions 5.

1. foreman
2. inspector
3. inspector
4. foreman
5.
   a. Know the law.
   b. Have working knowledge of current practices.
   c. Know the plans.
   d. Organize your activities.
6.
   a. implementation
   b. performance
7.
   a. Utility
   b. Traffic
   c. staging
8. Major
9. enforcement
10. controlling, educate, cooperation
11. inform, train, foreman
12. laws, police power
13. implement, plan